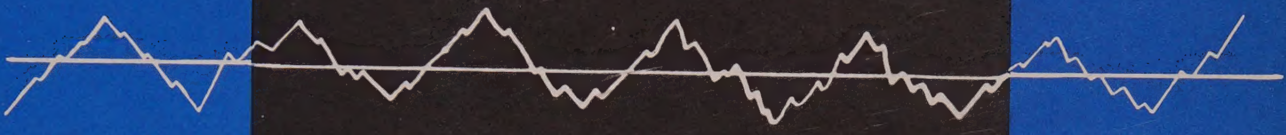
cycles



March 1959

FOUNDATION FOR THE STUDY OF CYCLES
New York, New York

CYCLES MARCH 1959, VOLUME X, NUMBER 3

THE OFFICIAL BULLETIN OF THE FOUNDATION FOR THE STUDY OF CYCLES

Director: EDWARD R. DEWEY

Manager, Membership: GERTRUDE E. ROESSLE

Editor, Cycles: GERTRUDE SHIRK

Editorial Advisor: C. James McLemore

INDEX

Page

BY DEPARTMENT

- Chapter Affairs 65
  - New York
  - Washington
- Cycle Round-Up
  - Features
    - Liabilities of Failures . .66
    - Stock Prices 66
    - Sunspots 67
    - Egg Prices 67
    - Residential Construction Contracts 68
  - Latest Figures on . .65
    - Aluminum Production
    - Automobile Factory Sales
    - Bond Yields
    - Corn Prices
    - Oat Prices
    - Unemployment
    - Copper Prices
    - Liabilities
    - Stock Prices
    - Wheat Prices
- Director's Letter 51
- Foundation Affairs . . .63
- Geisinger Indicator . . .70
- Letters . . .64
- Research By Staff
  - The 17.75-Year Cycle in Stock Prices . . .53
  - The 2-Year Cycle of the Evening Grosbeak . . .56
  - The 11.2-Year Cycle in Pig Iron Prices . . .57
- Research By Others
  - Cycles in Ordinary Shares . .60

BY SUBJECT

- Business
  - Aluminum Production . .65
  - Automobile Production . .65
  - Industrial Production . .70
  - Residential Building Contracts .68
  - Unemployment . . .65
- Commodity Prices
  - Copper . . .65
  - Corn . . .65
  - Eggs . . .67
  - Oats . . .65
  - Pig Iron . . .57
  - Wheat . . .65
- Finance
  - Bond Yields . . .65
  - Stock Prices . . 65, 66
  - Liabilities of Failures . 65, 66
  - The 17.75-Year Cycle in Stock Prices . . .53
  - Cycles in Ordinary Shares . .60
- Science
  - The 2-Year Cycle of the Evening Grosbeak . . .56
  - Sunspots . . .67

Cycles IS PUBLISHED BY THE FOUNDATION FOR THE STUDY OF CYCLES MONTHLY AT THE FOUNDATION'S OFFICE AT EAST BRADY, PENNSYLVANIA. SUBSCRIPTION RATE $10.00 A YEAR. ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT **East Brady, Pennsylvania**, WITH ADDITIONAL ENTRY AT DEXTER, MICHIGAN. PUBLICATION OFFICE, 680 WEST END AVENUE, NEW YORK 25, NEW YORK.

Director's Letter

Dear Member,

What's Ahead for Stock Prices?

The overvaluation of stock prices in this country is a matter of world-wide concern.

Can a knowledge of cycles throw any light upon this situation? The answer is "yes!"

I am preparing an article on this subject for inclusion in the next report. This article will discuss the basic underlying growth trend of stock prices, some of the important divergencies from trend that have occurred from 1831 to date, and the part that cycles have played in this picture. I think, if you are interested in having basic perspective, and in knowing the *structure* of things, you will find the article of value.

The trouble with most of us is that we fail to take into account the broad sweep of things. We let our thinking be influenced too much by *recent* events. We do not realize that there is little happening today that hasn't happened before. And that what followed these events on previous occasions is mighty good to know about if you are trying to look ahead now (and who isn't!).

As background for the article I am writing, you may wish to read my current article on the 17 3/4-year cycle.

The 17 3/4-Year Cycle in Stock Prices

My article on the 17 3/4-year cycle in stock prices on pages 53, 54, and 55 of this issue is an important one. (If you haven't had time to read it, the article shows that, although the 17 3/4-year cycle in *stock prices* has failed for the last two cycles, this cycle has kept on coming true in sunspots, in pig iron prices, and in failures.)

The article is important from the cycle standpoint because it shows that there was *no eclipse of the 17 3/4-year cyclic force*. We know this because other things kept on responding to it. The "fault" was not with the *force*, but with stocks. Temporarily (I trust) stocks did not gear into the master pattern. The pattern was there all the while, but stocks did not "choose" to conform.

The continuation of this force is something I had not previously established to my satisfaction.

A by-product of these observations is the fact that stocks, failures, and pig iron prices are not as closely related to each other as some have supposed. When they are each conforming to the same cyclic force they move together, but when one of them breaks away from the cycle it does not cause the others to break away also. Their behavior, when they move together, would seem to be the *result* of a common cause rather than action and reaction among themselves. Whether this common cause is sunspots or something else I do not know, but I suspect sunspots are *not* the cause. I suspect that sunspots, on their part, are also the result of something still more fundamental. What this "something" is we still do not know, but we are constantly getting closer.

How can we tell *in advance* when a phenomenon is going to "break step" with the cyclic force? I do not know. Perhaps we will never know. The situation may be akin to the little boy who keeps step with the parade until a butterfly attracts his eye. When he has caught the butterfly he resumes step with the marchers.

Boy Speculators

Speaking of boys reminds me of a happy phrase used by one of our members in a recent letter. He wrote something to the effect that he didn't see why he should help the "boy speculators" among our membership. Miss Shirk and I both liked the term. We figured out that "boy speculators" are those who want and expect someone else to tell them what to do. As a rule "boy speculators" are not going to be very successful in the market.

75% Accurate

One of our members reports that, after 25 years of work, he is now able to forecast the Dow-Jones averages, *and the prices of individual stocks,* two months in advance with 75% accuracy. It seems unbelievable, but I know him to be a man of ability and I believe him to be a man of integrity.

He says that before he does anything further with his discovery he wants to subject it to additional tests. When he is completely satisfied he will either operate himself or inaugurate a service; he doesn't know which.

I do know that this man has spent a very large sum of money on cycle research. However, the extent to which cycles enter into his forecasting techniques, if at all, I do not know.

Sounds interesting, doesn't it!

Economics

Business Record says the old economics is dead, the new economics is not yet born.

The failure of economics to become a science is due to the failure of economists to recognize that there are natural rhythmic forces in our environment to which human beings respond; and that economics, if it is to become a science, must learn to distinguish between the effects of such forces and the true economic forces also present.

Forecasting economic events involves forecasting three separate elements or factors as follows: First, you must forecast the basic underlying growth trend—the situation which changes only slowly over the years. Second, you must forecast the cyclic factor, the rhythmic ups and downs which, if you have determined them correctly and if they are significant, usually continue. And third, you must forecast the non-cyclic factors. As part of the third element, when you are forecasting prices, or anything measured in dollars, you must take account of the fact of inflation—that is, that our government has watered our money so that it now takes two or more paper dollars to buy what could be bought for one gold dollar, if by luck you had one.

Now I know no more about the non-cyclic elements than you do. Probably not as much. And I refuse to be drawn into giving half-baked opinions about things I don't know anything about. You can get opinions on things like that from your other sources of information.

The trouble with your other sources of information is that they probably know little or nothing about the rhythmic cycles. This leads them to make false deductions about cause and effect. For instance, a bit of bad war news comes through and the price of stocks go down. "Ha! Ha! Bad war news means lower stock prices." But suppose the decline was really due to the downturn of a cycle. It wouldn't be the war news at all. And the theory that it was would lead to a false forecast next time bad war news appeared. Next time, after bad war news and a forecast of decline, the price of stocks might go up! That's why forecasters have ulcers!!

It is impossible to make adequate economic forecasts without taking cycles into account. In fact, it is impossible to have adequate economic theory without taking cycles into account. Economics is properly the science of the *divergence* from cyclic patterns. It's as silly to attribute the 9-year cycle, let us say, to *economic* factors as it would be to say that *economic* factors are responsible for the summer boom in the ice cream business or the winter boom in fuel oil.

A knowledge of cycles can help you to distinguish between these moves that have an economic cause and those that do not, so that you can better understand true cause and effect relationships—so that you can make better forecasts.

Patents

My article in the December report about the 8.3- and 9.17-year cycles in patents issued in the United States seems to have caused a bit of a stir. People were surprised and disturbed to learn that the number of patents issued per capita has been declining since about 1917. (In 1920 there were 413 patents per million population. In 1957 there were only 226 patents per million population. Quite a drop!)

I have received a good deal of support for my conjecture that there may be a relationship between the modern tendency to look to the government for everything and the decrease in the number of patents. Mr. Mercer H. Parks of Houston sent me a paper of his which shows that, with the onset of socialism, England, France, and Germany, in that order, experienced a similar decrease in the number of important inventions, and scientific and mathematical discoveries. I had not known this fact.

I don't know why I am writing all this, for it has nothing to do with cycles. There are no cycles in socialism that I know about. It's always merely more of the same!

Cordially yours,

Edward R. Dewey

Director

Research by Staff

THE 17.75-YEAR CYCLE IN STOCK PRICES

By E. R. Dewey

It's too soon to say for sure, but it certainly looks to me as if the 17 3/4-year cycle in stock prices were reasserting itself as the dominant cycle in these figures.

Cycle Downward

If so, this cycle is exerting a *downward* pressure at the present time and will continue to do so for about seven more years. It *definitely introduces a note of caution into the present situation.*

In April 1955 I first told you about this cycle in stock prices. I told you that it had not been *consistently* present from the beginning. This is true. After four good waves (1831-1908) stock prices failed to respond to this cycle until 1945. Since 1945, (fourteen years ago) stock prices *have* conformed.

During the period when stock prices did not respond to this cycle, *other things did.* See Figure 1 in the next column. This fact shows that the *cyclic force* kept on operating, even if *stocks* did not respond.

(Failures (inverted) are adjusted for war. Pig iron prices are adjusted for trend. Failures and pig iron price figures stop at 1949 because the 17-year moving average trend cannot be computed past that point. Sunspots (alternate cycles reversed) are adjusted for the 22.2-year cycle. Stock prices are deviations from a straight line trend.)

This 17 3/4-year cycle has dominated stock price behavior from 1831 to 1908 and from 1945 to date.

To see how stock prices conform for the entire period 1831-1958, turn overleaf to Fig. 2.

Timing and Strength

As you can see by the broken zigzag in both Figure 1 and Figure 2, the 17 3/4-year cycle in stock prices crests ideally about the middle of 1957. Its next trough is due early in 1966.

On the average, for the five good cycles, the crests have been typically 30% above trend at time of crest; 23% below trend at time of trough. This makes an average decline from crest to trough of 53% of trend over the 9-year period normally required for this move.

Bear in mind that there are other cycles in the picture. Even if the 17 3/4-year cycle has reasserted its dominance, the decline will be irregular.

Also, and this is always encouraging, the underlying growth trend—the straight line in Fig. 2—is upward. This rise of the trend will cushion any decline that comes about as a result of the 17 3/4-year cycle.

The 17 3/4-Year Cycle in Other Things

If this series of figures provided all we knew of the 17 3/4-year cycle, I would be inclined to

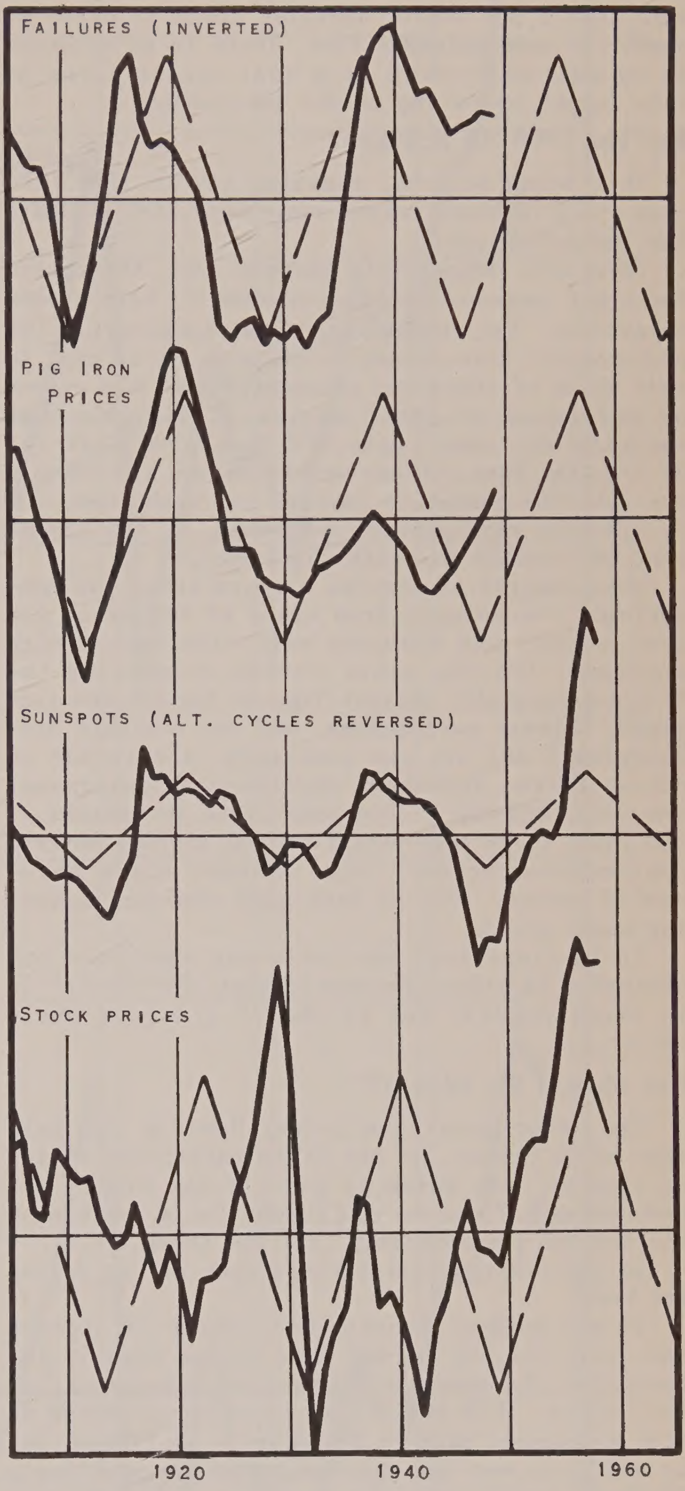


Fig. 1. The 17.75-Year Cycle In Four Different Series

ascribe the four and a half good waves to mere happenstance. However the 17 3/4-year cycle is well established. It is one of the best substantiated cycles I know about. It has been found in many things. It has been found in both natural and social science figures. It has been traced back for more than 2,000 years. Wherever found it turns at about the same calendar time. There is no question in my mind that there is a real cyclic force of this length operating in our enviroment.

Why the 1908-45 Eclipse?

This being so, why, starting say in 1908, did this cycle in stock prices vanish and stay eclipsed for two full cycles?

There are two possible answers: One, the cyclic force may temporarily (or permanently) have ceased to operate. Two, stock prices may temporarily (or permanently) have ceased to respond. It is easy to tell which of these two alternatives is the answer by reference to other series of figures that evidence the same cycle. If they also lost the 17 3/4-year wave pattern we may assume the trouble was with the causative factor; if, with them, the 17 3/4-year wave pattern continued, we may assume that the trouble was with the response.

Three series of figures are available for comparison: Percentages from trend of failures, pig iron prices, and sunspots with alternate cycles reversed. (Of the other series evidencing the 17 3/4-year cycle, current figures for Arizona tree rings, Chinese earthquakes, and the variable star Scorpius V 381 are not available, the cycles in cotton prices have been abolished by government controls, and the 17 3/4-year cycle in battles is too faint to be seen except as you average several consecutive cycles.) Fig. 1 shows these three usable series, 1905 to date, and similar figures for stock prices.

It is clear that the cycle has continued undisturbed in other phenomena; that the "fault" is in stock prices, not in the 17 3/4-year cycle *per se*.

How Should We Adjust?

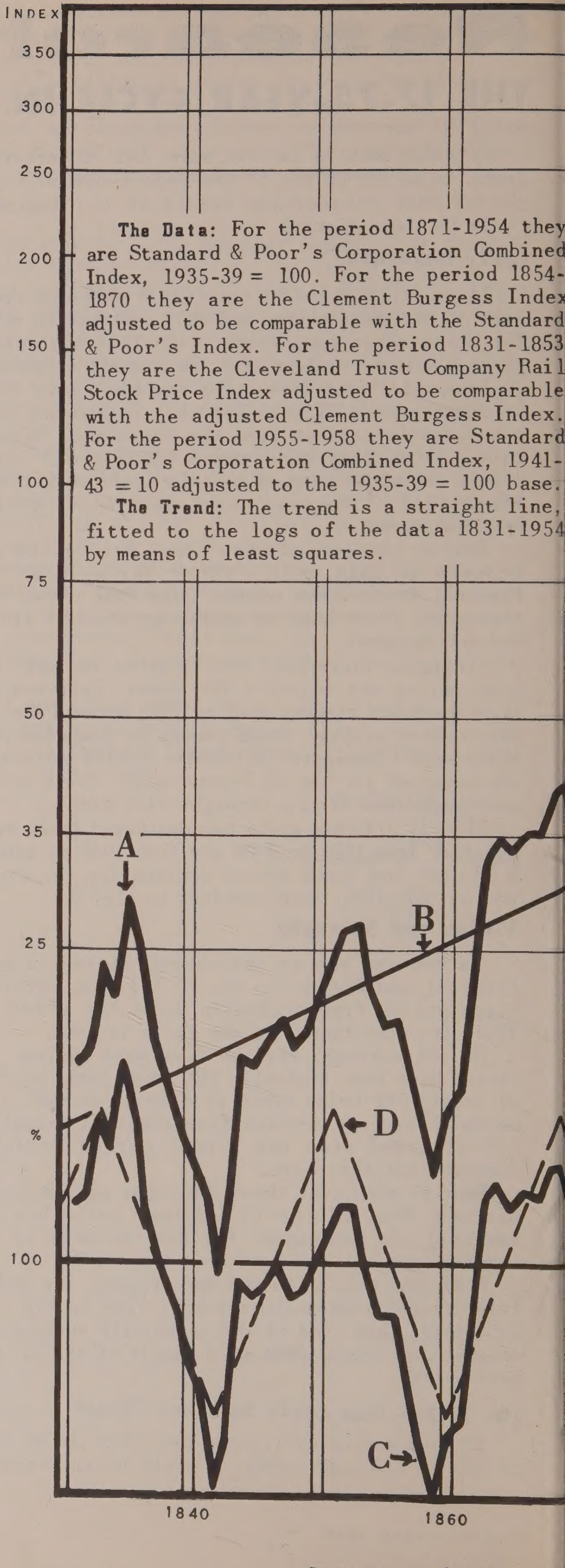
Two other questions arise: How can you tell when stock prices, or any other particular series of figures, are going to get off the track, get back on again? How do you adjust for a cycle when the figures are obviously "off the track"?

To the first question the answer is: we do not yet know.

To the second question the answer is: ignore the cycle for the period when it was clearly inoperative. In other words make *no* adjustment for the period, 1908-1945. This is what you would do with a seasonal pattern temporarily abolished, let us say by a war. If the treatment is good for a 12-month cycle, why not good for a 17 3/4-year cycle?

Summary

This well known and important 17 3/4-year cycle seems to have reasserted itself in stock prices. If so, it introduces another note of caution for the next seven years.



The Data: For the period 1871-1954 they are Standard & Poor's Corporation Combined Index, 1935-39 = 100. For the period 1854-1870 they are the Clement Burgess Index adjusted to be comparable with the Standard & Poor's Index. For the period 1831-1853 they are the Cleveland Trust Company Rail Stock Price Index adjusted to be comparable with the adjusted Clement Burgess Index. For the period 1955-1958 they are Standard & Poor's Corporation Combined Index, 1941-43 = 10 adjusted to the 1935-39 = 100 base.

The Trend: The trend is a straight line, fitted to the logs of the data 1831-1954 by means of least squares.

Research by Staff

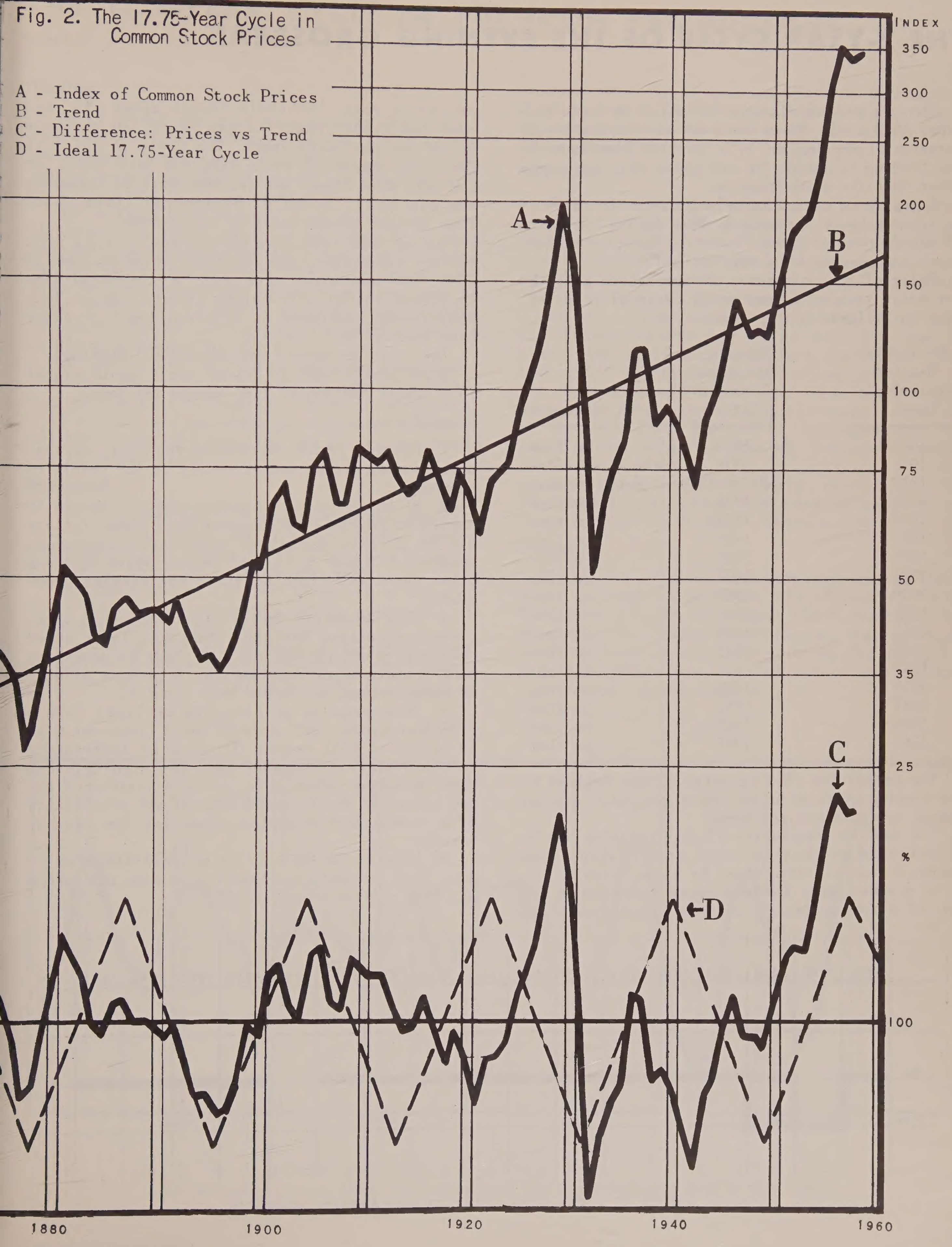


Fig. 2. The 17.75-Year Cycle in Common Stock Prices

THE 2-YEAR CYCLE OF THE EVENING GROSBEAK

BY L. SHERWIN

For the period of time for which we have records, 1913-1945, there has been an alternate-year invasion of New England by a northern bird known as the Evening Grosbeak. No one knows why, but every other year the birds show up.

A report in regard to this behavior is given in an article by Dr. Leonard W. Wing in Vol. 2, No. 2 of the *Journal of Cycle Research*. However, we have never reported on this wave in *Cycles*.

Dates of the invasions, in comparison with the perfectly regular 2-year cycle, were given by Dr. Wing as follows:

Perfectly Regular 2-Year Cycle Years	Evening Grosbeak Invasion Years	Comments
1913	1913	on time
1915	1916	1 year late
1917	1917 & 1918	extra invasion
1919	1919	on time
1921	1921	on time
1923	1923	on time
1925	1925	on time
1927	1927	on time
1929	1929	on time
1931	1931	on time
1933	1933	on time
1935	1935	on time
1937		missed
1939	1939	on time
1941	1941	on time
1943	1943	on time
1945	1945	on time

The reason for this invasion of New England by the evening grosbeak in an almost perfectly regular 2-year cycle is not yet known.

The dramatic regularity of this behavior may be illustrated by what is known as a Hoskins Time Chart. A two-year time chart is shown below.

In a time chart, the base years are shown at the top of a succession of columns. Base years are arbitrary years one cycle length apart. In this case the cycle length is two years, so the base years are two years apart. The scale at the left shows the number of years past the base years. On the grid thus formed the various years of invasions are plotted by means of horizontal lines, each line as long as the width of one column.

As in this case the first base year is 1912 (purely arbitrary), and the first invasion came in 1913, one year after base year, a horizontal line is placed in the 1912 column at position 1. This positioning indicates an invasion one year after base year of 1912, or 1913.

The other invasions are diagrammed similarly.

A *perfectly* regular 2-year cycle would result in a single horizontal line across the page.

Significance

1. Behavior which repeats as regularly as this over as many cycles cannot easily be the result of chance.

2. If it is caused by environmental factors it should be possible to discover what these factors are by discovering first what other phenomena evidence a 2-year cycle, and second, which of these other phenomena might motivate the evening grosbeaks.

3. This causative factor might influence other creatures besides evening grosbeaks. These other creatures could include man. If there is something that stimulates or depresses or otherwise affects us human beings, we should know about it.

4. Some aspects of economic activity have a 2.02-year cycle. Such a cycle would creep one year in 50 cycles (101 years). It would be interesting to discover if, 100 years ago, the evening grosbeak invasions occurred in the even instead of the odd years. If so, it would suggest the possibility of a common environmental cause for the two behaviors.

We hope to be able to bring this study up to date. Then we shall see "how it has come out" since Dr. Wing's first report in 1953.

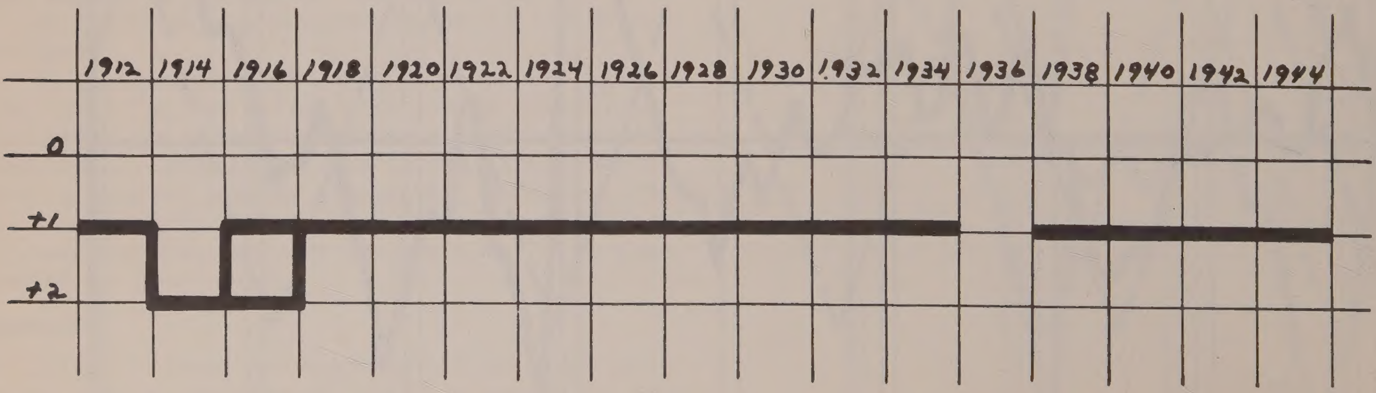


Fig. 1. Timing of the 2-Year Cycle of the Evening Grosbeak

THE 11.2-YEAR CYCLE IN PIG IRON PRODUCTION

BY G. SHIRK

Timing

An 11.2-year cycle is an operating force which contributes toward changes in the level of the production of pig iron. This cycle is now on the way up toward an ideal high due at the beginning of 1961. (1961.0, to be exact.)

The actual level of pig iron production over the next two years will be the result of many interacting forces, this 11.2-year cycle, other cycles, and random factors. All these forces combine to move production up or down from year to year. Anyone who is trying to guess what is going to happen next by correlating all possible factors should know about this cycle.

Of course, one cycle does not make a forecast. However, one strong cycle can materially affect the accuracy of a forecast. A smart forecaster will combine the possible percentage effects of all the factors he can find out about, including the 11.2-year cycle.

Strength

The 11.2-year cycle in pig iron production is a fairly strong cycle. As it moves upward toward the high at the beginning of 1961 it will exert a force of about 10% of trend per year.

Something which, *by itself,* exerts a force of 10% a year should certainly not be overlooked in the combination of all the forces.

Everything that I have said so far about using this cycle depends completely on the one assumption that it is a valid cycle—that it is really a force which is present in pig iron production. I think anyone would concede that *if* it is there, it certainly must be considered. The question is, "Is it there?"

Validity

With many forces contributing to changes in the level of pig iron production, you are not apt to see any particular one (except war) in the original figures. The problem of deciding about the validity of this cycle becomes one of separating the cycle from all the other factors.

It is, to some extent, possible to strip away the things we are not interested in, and to reveal the cycle in a reasonably pure form. The end result of the manipulations we performed on the figures to achieve the isolation of the 11.2-year cycle is diagramed below in Figure 1 by means of the solid line. The broken line represents the ideal cycle, which is just the average behavior of the solid line.

Although I do not want to go too deeply into technicalities, there are several aspects of Curve A below which should be mentioned.

Comments

First, the original data were adjusted to eliminate, as much as possible, the effects of World Wars I and II. The adjustment which was made can be seen on the chart of the original figures which is Curve A on the next page. In so far as it is possible, therefore, the effect of one random factor, war, was eliminated.

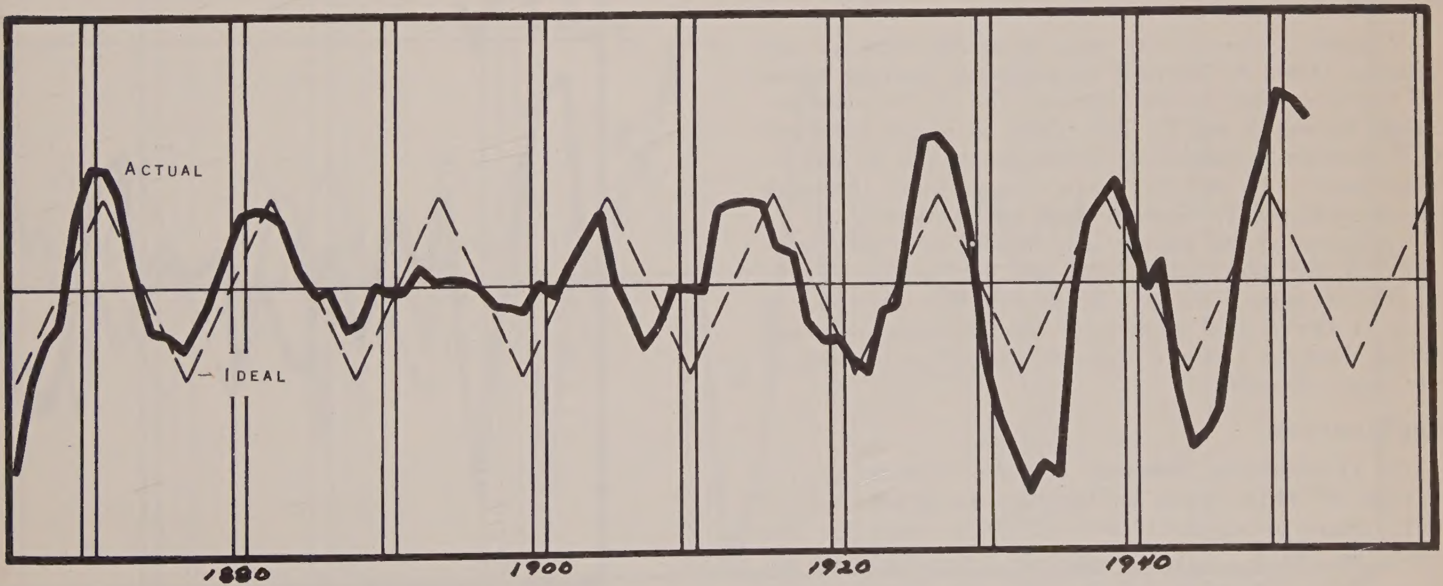


Fig. 1. The 11.2-Year Cycle in Pig Iron Production.
The actual figures have been smoothed and filtered to clarify the cycle.

Second, the data were manipulated to eliminate two additional cycles which also appear to be present. One cycle is about 7 years long and one about 9 years long. Although these would be mixed up with the 11.2 cycle in the original figures, they have been removed by the manner in which the curve was filtered and smoothed.

At this point it should be noted that the last figure on the chart which is plotted at 1952 includes all of the data through 1958. Because the work is centered there are no plots for the years after 1952, although these years have been included in the computations.

The comment is sometimes made that the process of isolating a cycle *creates* the cycle. If this were true we could pick up any cycle length we wished to in every series of figures we worked with. Of course this does not happen. If the 11.2-year cycle were not present in the figures, the process we went through to isolate it would have given us something vastly different from the smooth and regular performance shown on Figure 1.

On Figure 1, the only time in seven and one-half repetitions of the cycle when the actual performance was poor was during the period 1890 to 1900. Of course, if the methods made the cycle it would have been good throughout. However, for some reason, which we cannot explain, the cycle failed to operate during that one ten-year period.

Conclusion

From Figure 1 it appears fair to conclude that the 11.2-year force has been present in pig iron production over most of the time for which we have figures. There are not enough repetitions to tell whether or not it is significant, but it is regular enough and strong enough that it should be considered a real force until it ceases to operate.

Figure 2

Figure 2 charts the yearly production of pig iron as Curve A. Curve B is a moving average trend of Curve A, and Curve C gives the difference between Curves A and B. The cycle as shown by Curve C is extremely mixed up by the possible 9- and 7-year waves. It was for this reason that the work which resulted in Figure 1 was undertaken.

Because these other forces are actively present in the series but have not yet been defined, it is extremely riskly to apply the result, as seen in Curve A of Figure 2. More cycle work needs to be done to isolate the additional cycles which are also present.

Application

It is possible, however, to make a crude application of this cycle by keeping in mind that it will exert an upward force of 10% a year for the next two years. This 10% must be combined with all the other available facts that can be collected about pig iron production before you can make a guess about the future, before you can get the *net*!

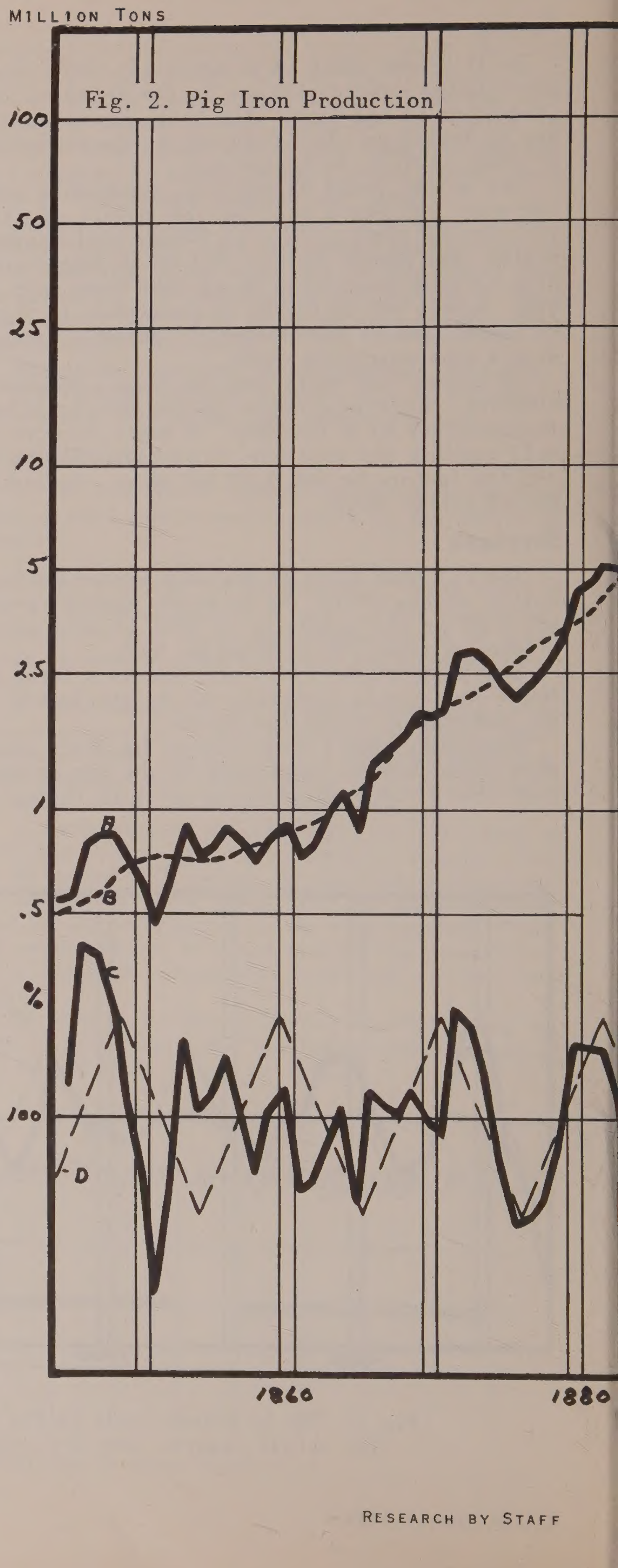
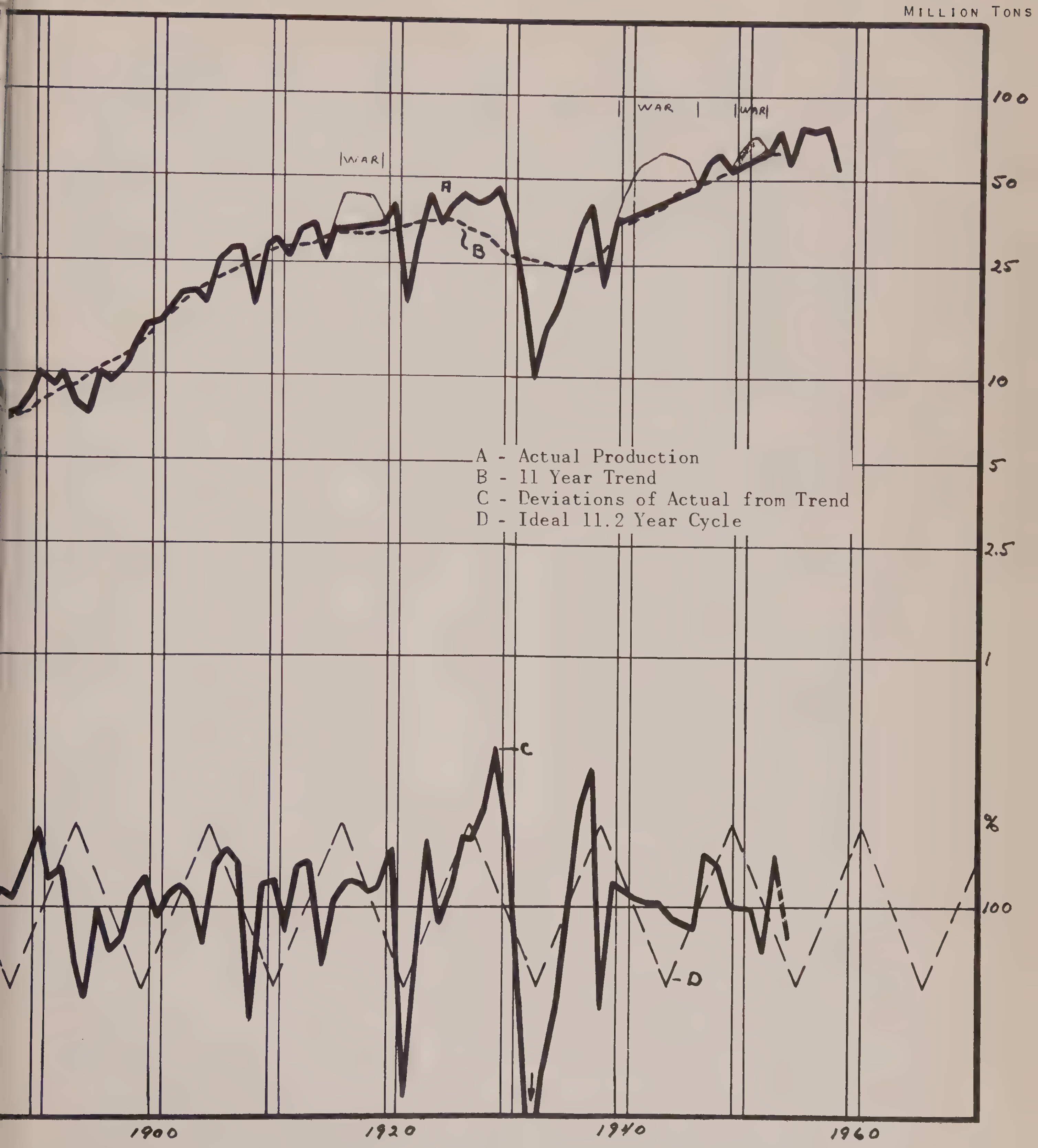


Fig. 2. Pig Iron Production


Million Tons
100
50
25
10
5
2.5
1
%
100
WAR
WAR
WAR
A
B
C
D
A - Actual Production
B - 11 Year Trend
C - Deviations of Actual from Trend
D - Ideal 11.2 Year Cycle
1900
1920
1940
1960

Research by Others

CYCLES IN ORDINARY SHARES

BY E. H. McDOUGALL

For the purpose of this investigation use has been made of the London & Cambridge Economic Service Index of Industrial Shares for those periods during which it was compiled, of the Kitchin Index from 1915 to 1924, and of Moody's share index from 1950. These indices have been linked where necessary.

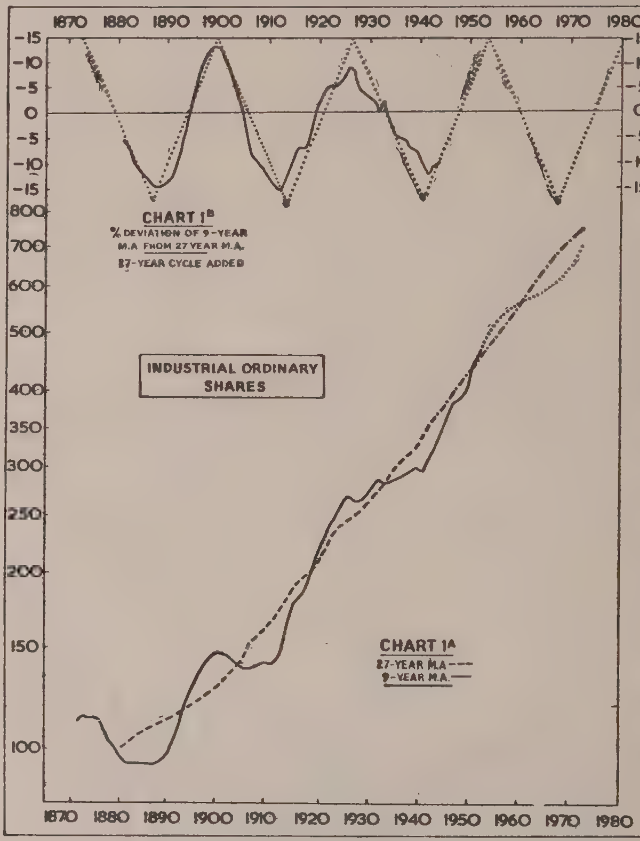
Analysis is carried out in the same way as in the consol article; that is moving averages are constructed for varying periods of time, and the percentage by which a moving average (which will be shortened to m.a.) of a smaller number of years deviates from a m.a. of a greater number of years is plotted on a chart. In this way any cycles which exist may be extracted. Then by reversing the process, it is possible to re-build, or synthesize them and to project the result forward. The latter, of course, assumes these rhythmic movements will continue in the future, with much the same intensity as they have done in the past.

Chart 1A shows a 27-year m.a. with a nine-year m.a. and some consideration must first of all be given to the trend disclosed in the former. From the early part of this century, the 27-year m.a. has continued to move steadily upwards regardless of the vicissitudes of war and peace and of boom and slump. Investigation reveals no reason to suppose there will be any slackening in this trend over the next few years, although there may be a tendency for the rise to proceed at a slower rate in the late 1960's. On this assumption the 27-year m.a. has been projected to the trade cycle peak due about 1973. It will be appreciated that this projection is necessary in order to provide a basis on which to synthesize other cycles; but should it prove to be above or below that which eventuates, it will be the price level which will be affected rather than the pattern of movement.

Chart 1B shows the same two m.a., but here the 27-year m.a. is drawn as a base line 0, and the nine-year m.a. plotted to show the percentage deviation from it. A rhythm clearly exists and approximates very closely to the 27-year cycle which has been added. Rhythmic peaks occur (or should occur in the future) about 1873, 1900, 1927 and 1954, and lows about 1887, 1914, 1941 and 1968. Assuming the continuance of these cycles, the nine-year m.a. can now be synthesized and projected over the same period as the 27-year m.a.

On page 61, Chart 2A shows the nine year m.a. with a three-year m.a. and in Chart 2B the latter is shown as a percentage of the former. Prior to 1916, the cycle which is revealed appears to have had an average length of eight years, but after that date it seems, on balance, to have increased its stride to a nine-year period (reference was made to this in a recent article on Consols). Even after 42 years it is still too early to be certain that this change has become a permanency. Indeed, it reverted to an eight-year phase between 1928 and 1940, and it may be that the lengthened periodicity was caused by the effects of World War I and II, and under peace conditions it may revert once more.

Thus, although for the purpose of this study a nine-year period has been assured (a vertical line has been drawn through 1916 and an eight-year cycle added before, and a nine-year one after that date), the investor might be wise to give serious consideration to any warning signs which may appear about 1963—market instability, obvious over-speculation, and a marked narrowing in the yield differential between Consols and Industrials.



CHARTS 1A AND 1B

If a nine-year cycle persists, the cyclical peaks should fall in 1964 and 1973 and the lows in 1959 and 1968. It must be realized, however, that rhythmic highs and lows (being in terms of moving averages) do not *necessarily* coincide with the peak or nadir in the price of the stock or index. There has, in fact, been a recent example of this; although the peak of Industrials came in 1955 (in this case also the rhythmic high), the large but unsustained rise of last summer succeeded, in terms of the three-year m.a., in placing the peak in 1956; and it may be added that the failure of the cycle to conform to the cyclical low in 1950 was caused by the sideways movement which developed between 1949 and 1952. But it has clearly conformed more recently.

In the past there has been a considerable variation in the percentage by which the three-year m.a. has deviated from the nine-year m.a., and there is some evidence to support the view that the former may more nearly approximate to the latter over the next decade than has been the case for many years. For this reason the projected trend has been devised to show the likely maximum and minimum strengths of movement the shaded portion being in between. This final synthesis of the three-year m.a. indicates that the next bull market should not have the potential of the last one; but after 1968, when the 27-year cycle will again be rising the sequence of bull phases with above-average possibilities should be resumed (the double and single arrows indicate the turning points of the 54-year and the 27-year cycles respectively).

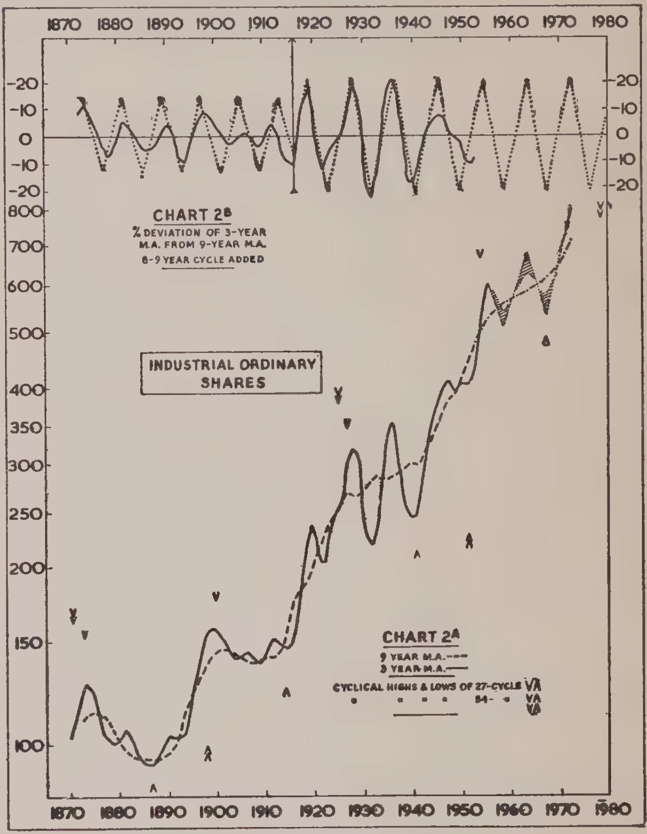
Chart 3 (on page 62) is an endeavour to make this even more apparent and it shows the three-year m.a. but with a 27-year cycle superimposed on it. The highs and lows of this added cycle are centered on the year in which it was or will be due to turn up or down—as indicated by the single arrows—but the price levels at the turning points are those actually reached by the *annual averages* of the index in the accompanying bull or bear market phases. For example, the peak shown as being in 1927 is the rhythmic high of the 27-year cycle, but the price is that actually reached by the index in 1928; similarly, the rhythmic low was in 1940 and was, in this instance, the year in which the index made its low.

It is very clear from this picture that the times when the greatest advances have been made have been those when the 27-year cycle has been rising, and its declining phases have brought periods which seem to alternate between severe depressions, and an inclination, if not to actual stagnation, at least to overall consolidation, as after 1900. Unfortunately, the 90 years covered by the index is all too short a period for what is essentially a very long-term study, and we are left to wonder whether the latter phase had its counterpart in the 13 years after 1846. It may well have been the case; certainly there seems to be little evidence from such statistics as are available that it was a period containing either a disastrous or prolonged slump, such as occurred one stage further back in the 1820's.

To the student of cycles, however, the features of greatest interest in these successive periods are that the worst depressions have all occurred when *both the 54-year and the 27-year cycles have been moving down together, and the one period of consolidation (of which there is direct evidence), when the latter was moving down alone.* If the weak link in this chain of evidence could be strengthened, then it could be said that these alternating periods have existed for *at least 140 years.*

The recurrence of such phases is of particular interest at the present time, not only because the 27-year cycle was due to start its fall in 1954, but also because of a factor of possibly even greater significance.

It may be remembered that in the previous article the 54-year (or Kondratieffe) cycle was described as providing the background to the movement of prices, and its rising phases seemed, in part at least, to coincide with those periods in history when economic activity and development have been most marked—"The Industrial Revolution," the age of steam and steel, the production of the motor-car, and now the development of atomic energy. It is clearly implicit in this theory that when the "great rhythm" is moving up there will be no economic crisis of worldwide proportions (though the trade cycle will continue to operate with greater or lesser intensity) and no intractable level of unemployment.



CHARTS 2A AND 2B

This appears to be the theory most generally accepted, but it must be added that there are some who view this movement rather differently. They see it as a recurrent "War Cycle," and in support of their belief they point to the fact that the interval between the Treaty of Vienna (which concluded the Napoleonic wars) and the famous crisis of the 1820's was almost exactly the same as the interval between the Treaty of Versailles and the crash of 1929. Moreover, there was again very little difference in the time that elapsed between the termination of the Civil War and the onset of US depression in 1873.

Clearly the obvious inference contained in this unfortunate historical sequence cannot be ignored; but it would nevertheless be a superficial appreciation to accept it at its face value. First, with the exception of the two decades of the French wars, it is impossible to relate the rising phase of this cycle (that is 27 years) with these war periods and their inflationary aftermath. Secondly, war could hardly be held to account for the considerable depression experienced here from 1873, a slump which is today largely forgotten but which was little less severe than 1929-1932 and much more prolonged. We were not directly affected by the US Civil War, and the trend of commodity prices at that time shows no sign of unusual inflation—on the contrary, these rose no more than might be expected during the upward phase of the 54-year rhythm, a rhythm which is itself essentially a price cycle. On the other hand American prices did experience an inflationary upward surge which is so characteristic of wartime peaks. Lastly, any such supposition totally disregards the fact that the "long wave" has been traced much further back in time; as, for example, in wheat prices to the 13th century (this may seem difficult to believe, but the writer has checked back to about the year 1650 and there is no doubt of the *tendency* for such prices to move up and down in conformity with the Kondratieffe).

It is thus hardly surprising that it has so long been a matter of argument as to whether war or the rhythm is the governing or dominant factor in relation to the incidence of booms and slumps. Unfortunately the situation has, until recently, always happened to develop in such a way as to preclude any final judgement; and this is because, in the case of the three wars mentioned, there has been a common denominator in that all ended at a time when the 54-year cycle was reaching for its peak. For this reason alone depressions of more than usual severity might have been expected soon after it turned down—quite apart from the inevitable consequences of the inflationary excesses of such times. More recent history, however, has provided a complete reversal of conditions in that World War II was fought when the "great rhythm" was nearing the end of its decline and it should now be moving strongly upwards.

Thus, if the latter holds the balance (albeit a temporarily uneasy one after the expansion of recent years), then no economic crisis as severe as those of apparently comparable periods should be experienced until the first down turn of the trade cycle *after* the Kondratieffe has reached its summit and is again falling. That would be, in effect, about 1982; and this event, as in the 1820's, in 1873, and again in 1929, should mark the close of an era of great development.

The disastrous consequences of all such movements being in an adverse phase at the same time has been described by Professor Schumpeter in his monumental work *Business Cycles:*

''As a man may suffer from many ills and yet for an indefinite time lead a vigorous life without being inconvenienced by them until, when his vitality has ebbed away, those ills or any one of them may suddenly acquire what to the specialist's eye will seem of paramount or even fatal importance, so the economic organism always does bleed from many wounds which it bears lightly in three out of four cyclical phases, but which spell discomfort when one, distress when two, *catastrophy when all the cycles are in the depression phase.*'' (They are my italics.)

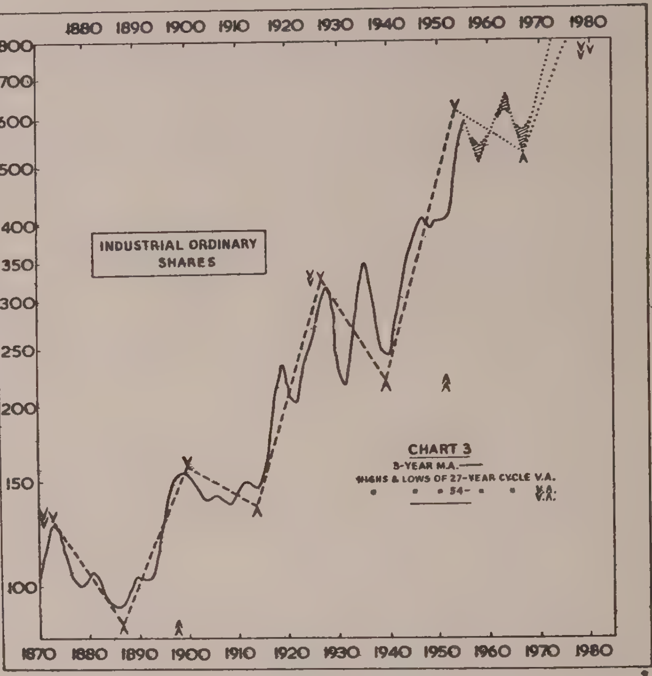


CHART 3

Editor's Note: This article first appeared in the June 27, 1958 issue of *Investors Chronicle and Money Market Review* which is the largest financial weekly in England. *Investors Chronicle* has kindly granted us permission to reprint it here. The charts illustrating the article are Mr. McDougall's and appeared in the original story in *Investors Chronicle.*

Foundation Affairs

REPORT FOR 1958

The year 1958 has been a good year for our Foundation (except financially).

Growth

For example, we have grown until we now have a membership of over 9,000. This growth is due to the efforts of Mrs. Robert Roessle, Manager of our Membership Division. To achieve this result Mrs. Roessle sent out over 550,000 letters of invitation. Think of licking all those stamps (over 300 every working hour)!

Chapters

Another good thing is that we now have more membership participation. Following the trail blazed by Jack Dorland, President of the New York Chapter, we now have chapters in Los Angeles, San Francisco, and Washington, D. C., together with chapters in formation in Chicago and Kansas City.

Better Reports

A third achievement of the year is the improvement in format and contents of the magazine *Cycles*. This is largely due to the advice of our editorial advisor, C. James McLemore of Indianapolis, and the zeal and good judgment of our editor, Miss Gertrude Shirk.

Additional Income

A fourth milestone passed is a financial one—again due to the energy of Mrs. Roessle. I refer to the sale of the names of our former members to people who wish to solicit them for the purchase of everything from oranges to gold bricks. These former members (15,000 of them now!) will not lack for mail if Mrs. Roessle has her way. Our aim is to see that they get something from somebody at least once a week during 1959! It is ironical that we are kept afloat by the names of those who don't love us anymore!

Better Organization

The real achievement of the year is less spectacular than any of these I have just named. It is the fact that we are no longer a one-man organization. For one thing, we have created an active coherent workable Board of Directors which meets regularly. For another, we have in Miss Shirk a person fully able to edit *Cycles* and the *Journal of Cycle Research,* even if I were to drop out of the picture tomorrow. In a way I have become the superfluous man!

Financial

I had hoped that by the time this report went to press, last year's accounts could be closed and audited so that I could give you a financial statement for 1958 in this issue. This did not prove to be possible particularly since we had a net loss for the year.

We got in more money from our old members and from our new members, but the cost of servicing our old members and the cost of getting new members both went up out of proportion. The result was that the membership division lost money instead of making some as in 1957.

Our contributions were up slightly. Other income was also up, particularly the sale of names of former members.

I judge the net loss for the year will be about $3,000.

Salary for Me

I had hoped it might be possible for me to receive some salary in 1958. As you know the last I had was $1,440 for 1955. However this did not turn out to be possible. I am hoping to get some money in 1959.

Research

You will note that I have omitted any mention of important scientific achievements among the accomplishments of the year. This is regrettable. It is perhaps due to my absorption with administrative matters. We took in and spent an average of more than $400 each and every working day in 1958. An enterprise of this size does not run itself.

1959

To try to get back on the track we are going to slow down during 1959. We are going to cease promotion. We have cut our budget in half. We are going to coast. And, in the time gained by this expedient, I may be able to learn something of importance in my chosen field. At all events, I hope so! There is so much to do.

The most important thing, of course, is to learn the *cause* of cycles and to learn the *laws* that govern their operation. Is the cyclic force always of uniform length and strength, or is it sometimes variable? If it is variable, what are the laws that govern the variability? In any event what are the lengths of all the different cycles?

How are sunspots mixed up in the picture? Are they a cause of some of the terrestrial cycles or are they, in common with the cycles on earth, of more fundamental origin?

Why do cycles sometimes fade out and disappear? Why do they sometimes reverse their timing?

All of these things we need to know, and many more, if we are to get the maximum benefit from our cyclic knowledge.

E. R. Dewey

Letters to the Editor

PATENTS

Dear Mr. Dewey:

In view of our technological and political contest with Russia, your article on patents should interest patriotic citizens generally, and even citizens who are not patriotic.

This alarming condition of an absolute and a relative decline in American inventiveness can also be explained as due to the difficulties of the inventor with the United States Government.

These difficulties, added to the normal difficulties of the basement or attic inventor in reducing his invention to practice, building working models, paying patent attorneys, fighting with the patent office for an additional period of perhaps four years, is discouraging, and brings many an inventor to feel that he is cursed rather than blessed with his bright ideas.

Rockport, Maine — Philip B. Sharpe

Dear Mr. Dewey:

Referring to the graph on pages 320 and 321 of *Cycles*, December, 1958, the rate of decline in issued patents is in part owing to the attitudes of the U. S. Patent Office and of our Federal courts. . .

The situation reached a point where a federal court handed down a decision that only the result of a "flash of genius" was a basis for a patent. Whatever a "flash of genius" may have been is anyone's guess, and that pronouncement had everyone confused.

"Advance in the arts," as legal verbiage terms it, may ever be becoming more rare, in spite of the great research laboratories.

Yours sincerely,

New York, New York — George Baekeland

Dear Mr. Dewey:

The work I have done on invention and discovery appears to me to support the implications of importance you attach to your analysis of the cycle data on patent issues. I sincerely hope that you can incite interest in it, not that it will really make any difference in the current trend of events because no one gets interested in bailing out the boat until the whole bottom is gone; but some intelligent analytical fossils might enable a future generation to set out individual objectives more readily than our ancestors set them out for us, and more clearly than we are setting them out for our children.

Very truly yours,

Houston, Texas — Mercer H. Parks.

THE STOCK MARKET

Dear Mr. Dewey:

In an article in the November 24 issue of the New York Herald Tribune, C. N. Stabler mentioned one well known analyst who thought that the stock market was ready for a correction.

The basis for this belief was that, historically, the market usually corrected itself, after a rise from a low point, at an average of 55 weeks after the low point. This week is the 56th since the low of October 22, 1957.

The article goes on to say that the longest period was 14.6 months (1942) and the shortest 11.6 months (1938) with an average of 12.7 months. This cycle may be of great enough significance to include with your other 11 cycles.

We need both a practical and a theoretical approach to cycle study, and I think your proportion is just about right. Your readers should be told again and again that this type of investigation is "basic research" in its purest and infant form.

Yours truly,

Hamden, Conn. — H. F. W.

Comment

I like the behavioristic approach expressed in your letter, but unless these setbacks recur at regular intervals from each other, they do not fall within the scope of our investigations. And I agree heartily with your comments about basic research.

E. R. Dewey

Dear Mr. Dewey:

Where you and any other analyst seeking to abstract usable cycles in the market fall into a cul-de-sac is in the *fact* of manipulation! And the insiders take very good care indeed that fixed patterns do not persist long. This is amply evident in my studies in the theory of runs.

After studying thousands of runs I cannot escape the conclusion that over approximately 80% of the time the market is going exactly nowhere.

Best regards,

Dundee, Oregon — R. R. Smith

Comment:

I don't know very much about the stock market, but I imagine there is as much manipulation of individual stocks as people can get away with. On the other hand, there is some question in my mind that the entire market can be manipulated. I should rather think it an expression of mass psychology, but of course this is debatable.

E. R. Dewey

Chapter Affairs

NEW YORK

At the December meeting of the New York Chapter 92 members and guests heard Foundation Director E. R. Dewey speak on the subject, “How To Make A Cycle Analysis.”

Over the years Foundation members and others have asked Mr. Dewey for a simple explanation of the technique of cycle analysis. Dewey's talk represented a successful attempt to sum up many of the answers he has given along these lines—in a manner useful to technicians, yet understandable to laymen as well.

The January meeting was the First Annual Meeting of the Chapter and was held on January 6. The meeting heard LCDR. David Williams speak on the subject “Business Cycle Forecasting.” Williams has devoted many years to the study of cycles, particularly in the field of commodity prices and business. The August 1958 issue of *Cycles* carried an article on forecasting commodity price cycles which was written by LCDR. Williams.

J. A. Dorland

WASHINGTON, D. C.

The January meeting of the Washington Chapter was held January 9 in the Community Room of the Washington Post Building.

The Chapter heard a talk by H. K. Rutherford whose series of articles, “Adventures in Forecasting,” have been appearing in *Cycles*.

A. Sherwood Vickers

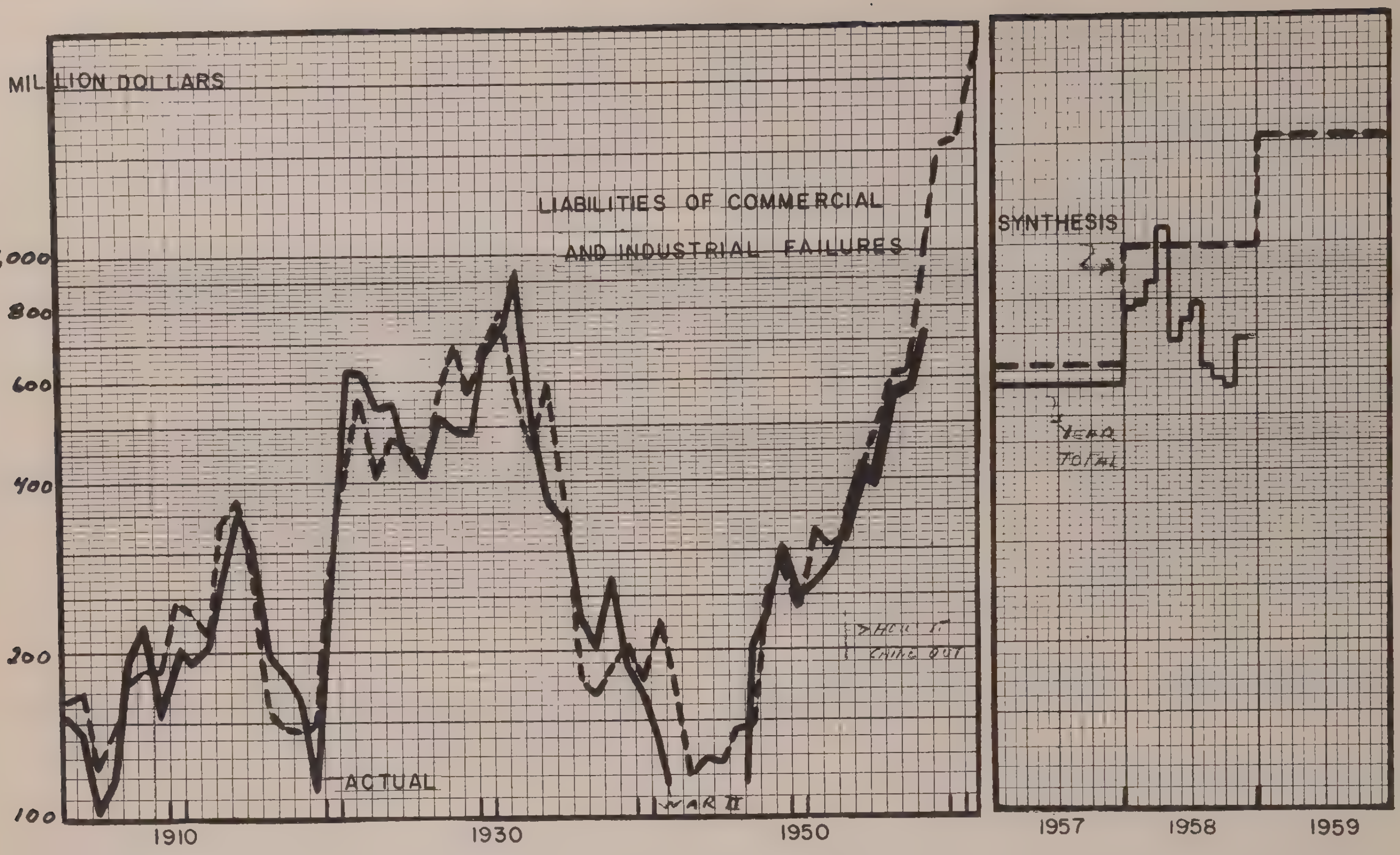
The Cycle Round-up

MARCH 1959

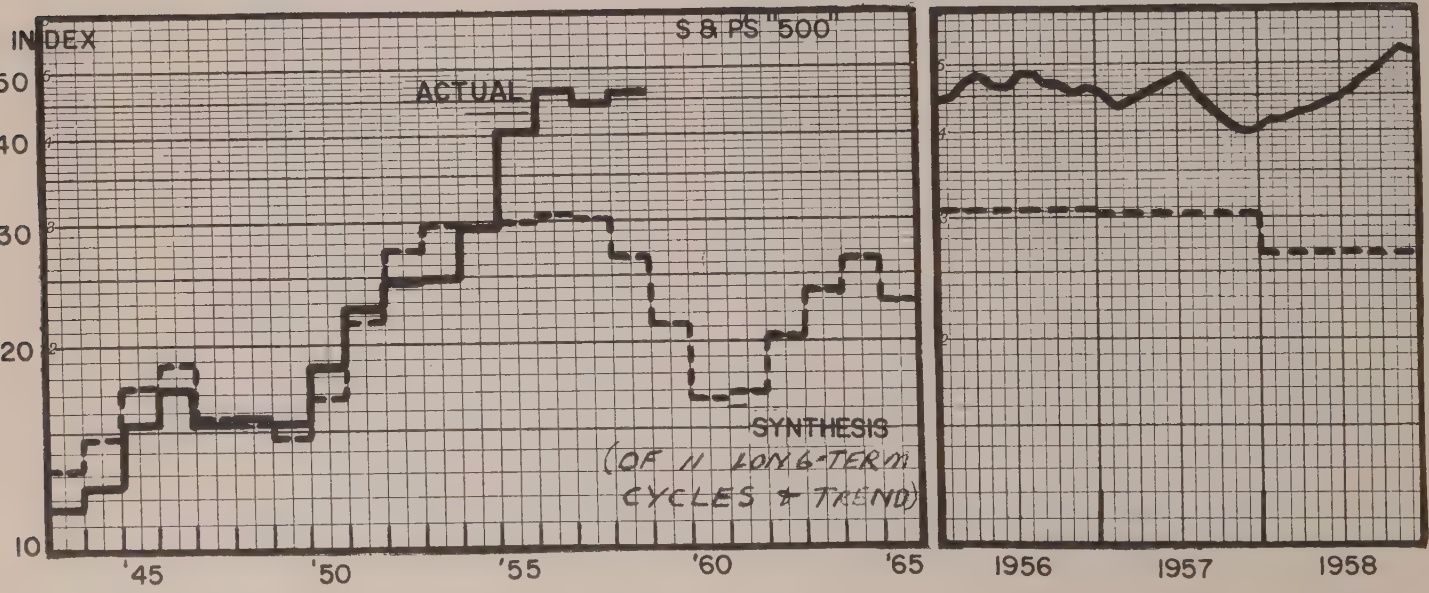
Series	Unit	1959 Month	Amount
Aluminum Production	Thousand tons	Nov	141p
Automobile Factory Sales	Thousand cars	Nov	512r
		Dec	594p
Bond Yields —Moody's: All Groups	Per Cent	Dec	4.38
		Jan	4.40p
Copper Prices—Electrolytic, New York	Cents per pound	Dec	28.58
Corn Prices—#3 yellow, Chicago	Cents per bushel	Dec	116.7
		Jan	117.7p
Liabilities of Business Failures	Million dollars	Dec	57.1
Oats Prices—#3 white, Chicago	Cents per bushel	Dec	69.8
Stock Prices—Standard & Poor's Combined Index	1941-43=10	Dec	53.49
Unemployment (% of labor force Unemployed)	Per Cent	Dec	6.03
Wheat Prices—#1 Dark Northern Spring, Minneapolis	Cents per bushel	Dec	223.5

p - preliminary r - revised

FAILURES



STOCK PRICES



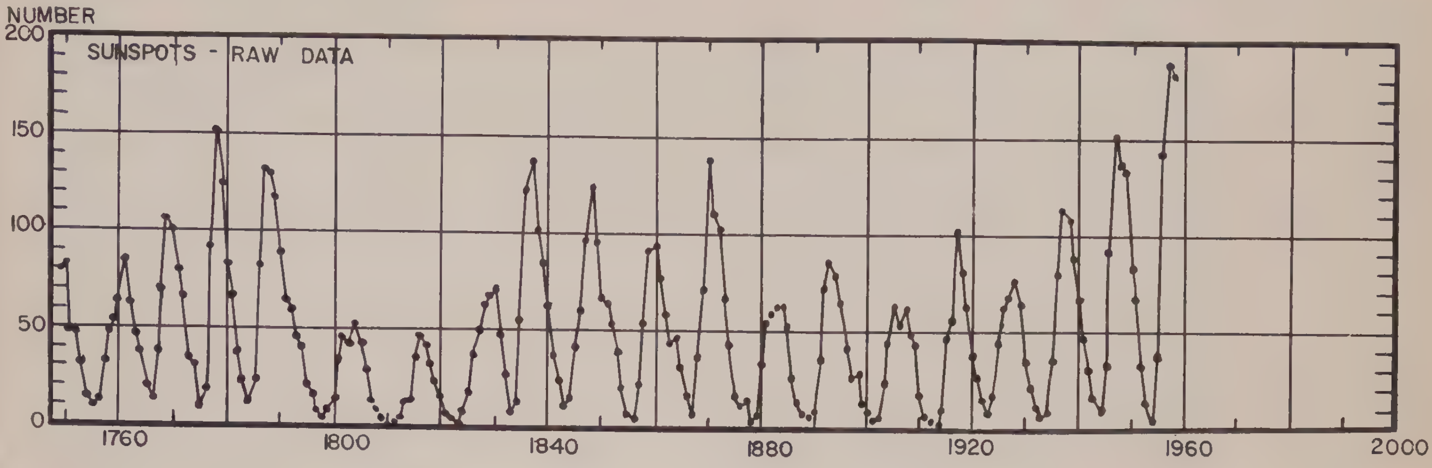
SUNSPOTS

The chart reproduced here is the long yearly record of sunspot numbers. The dominant cycle in these figures is slightly over 11 years long and is clearly evident by inspection.

The year 1957 was an all time high at 189.7. The average for the year 1958 was 182.1.

Recent monthly figures are:

1958 - Nov 142
Dec 185



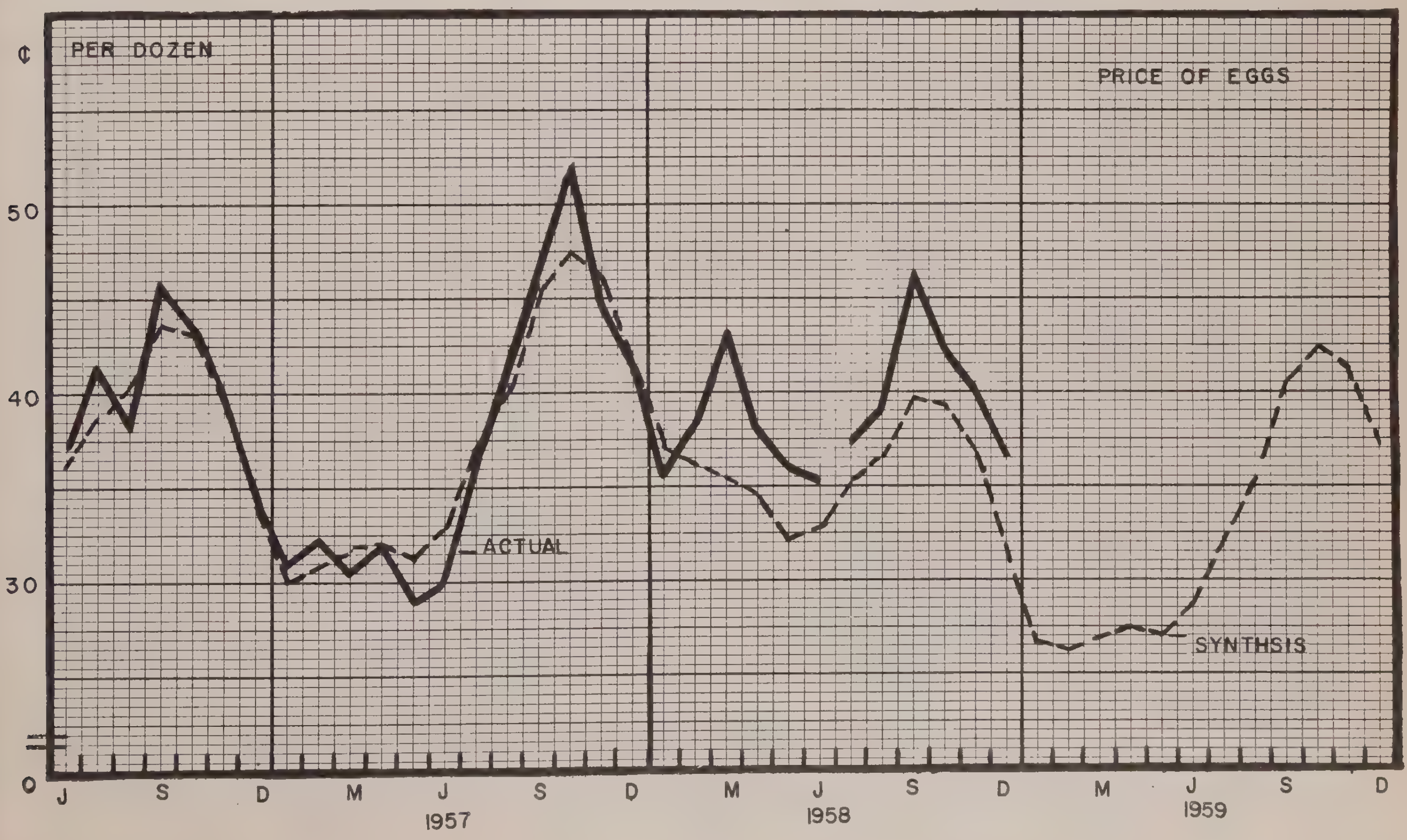
EGG PRICES

The synthesis of egg prices includes the seasonal cycle, a 26.5-month cycle, and a smoothly rolling trend line. Both the seasonal and the 26.5-month cycle are currently going down.

Our analysis of egg prices was based on the f.o.b. price at Chicago. Beginning with July, the prices reported monthly have been the delivered prices.

The contour of the lines of both f.o.b. and delivered prices should be the same, but the delivered price line will run a little higher. (It is not possible at present to tie the two series together.)

Nevertheless, it is possible to evaluate the synthesis line by keeping in mind that the actual line is running at a higher level than it should because of the delivery cost.



RESIDENTIAL BUILDING CONSTRUCTION

We can expect a reduction in the value of residential construction contracts awarded from 1958 to 1959 if the 32.3-month cycle continues to dominate this series.

The chart below shows the actual monthly dollar value of contracts awarded by means of the solid line. The figures are compiled by F. W. Dodge.

Actual contracts awarded are compared on the chart to a synthesis line which is the broken line.

If the monthly values of each line are added to get yearly totals, the following comparison can be made:

	Residential Contracts Millions of Dollars	
	Synthesis	Actual
1957	12,878	13,059
1958	14,448	14,761 est.
1959	12,893	

The 1958 actual yearly total is an estimate based on ten actual months.

The synthesis figure for 1959 suggests a drop from 1958 to 1959 of a little over 10%.

The reason for the decline is that the 32.3-month cycle had an ideal peak at March, 1958, and is now on the way down to a low due ideally at July, 1959.

The synthesis is made up, and "made up" is an exact term, of the 32.3-month cycle, the 12-month cycle and a trend. You can see that if the 32.3-month cycle goes down on schedule (more than the trend goes up—if the trend goes up), the resulting total figure will be down.

The odds that the 32.3-month cycle will go down are good. In 10 out of 11 previous lows, at the time of ideal low, the cycle was below the trend. Note that I am speaking of the cycle, and not the actual figures.

Since there are thus about 90 out of 100 changes that the cycle will operate it is sensible to plan on it.

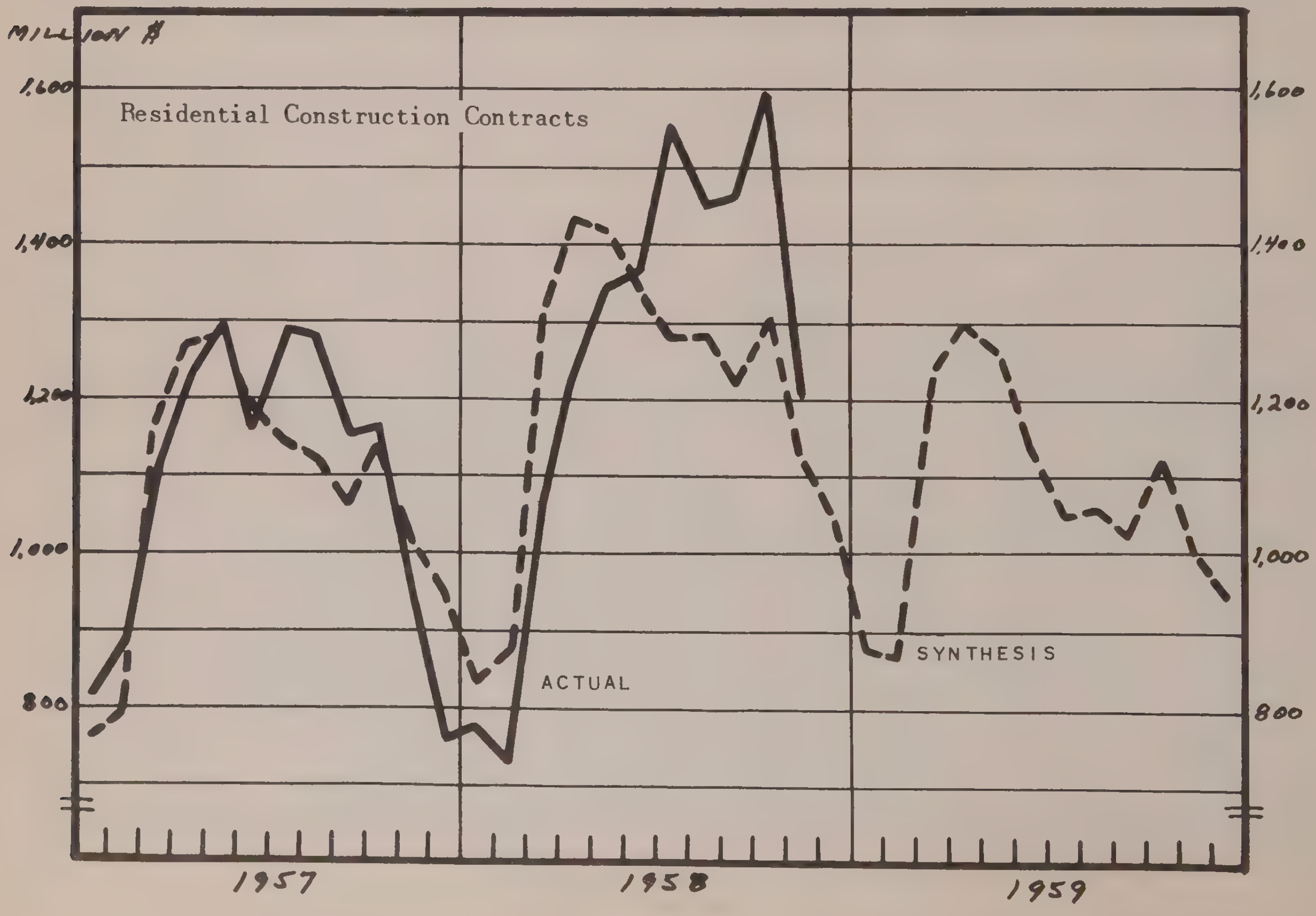
Of the other two factors included in the synthesis, the seasonal cycle in the construction industry is dependable enough that no comment is necessary.

However, the third factor, the trend around which the two cycles are wrapped, is the least dependable part of the synthesis.

It is difficult to guage just what any trend is currently. You can decide easily what the trend *has been* once it is history. The present picture is another thing.

In order to make the best possible guess, we removed the two cycles from the actual figures and plotted what was left. This residual is the solid line on the chart on the next page.

The problem is to decide the general basic direction of this line. We used a 12-month moving average as the basic trend, and extended it to the end of the



data.

This trend line is the broken line. The extension begins with the month of May 1958. The direction and level of the line after May is strictly a guess and has to be constantly revised as new information is added. The trend extension is revised this month.

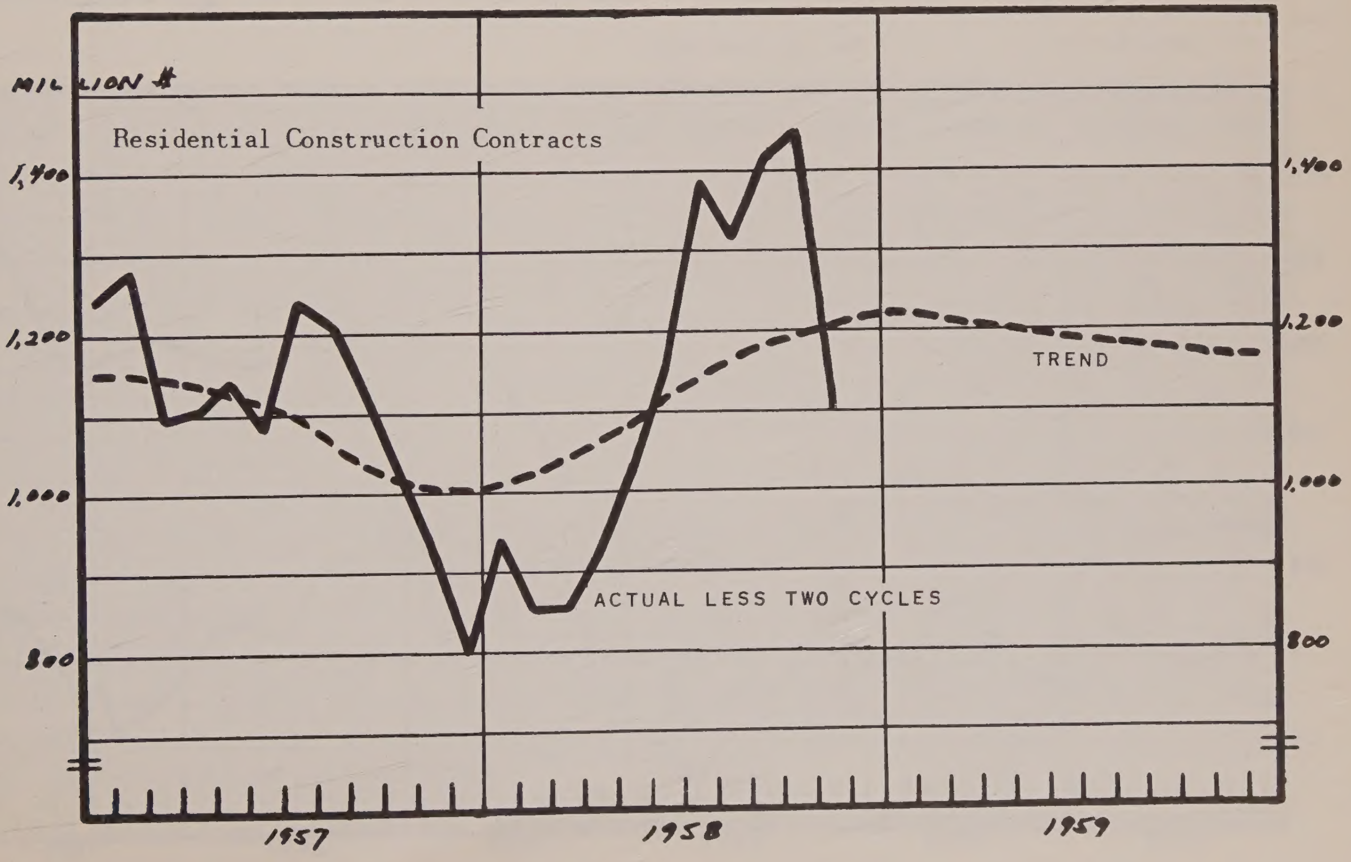
All the factors included in the synthesis are given in the table. The 32.3-month cycle and the seasonal cycle have been combined into one figure, but the trend is listed separately.

If you think that our trend is too high or too low, then you can adjust the result.

The last column in the table gives the actual figures. How well the record as it develops will correspond to the synthesis will be the test of the three factors we have used as well as an expression of all the factors we have omitted, including other cycles.

Residential Construction Contracts

	A	B	C	D
	Trend	Seasonal 32.3-Month Cycle	Synthesis Col. A Col. B	Actual
1958-Jan.	1,011	82.44%	833	777
Feb.	1,021	85.43	872	727
Mar.	1,038	125.59	1,304	1,071
Apr.	1,068	134.03	1,431	1,240
May.	1,076	131.68	1,417	1,346
Jun.	1,116	119.68	1,336	1,364
Jul.	1,140	112.00	1,277	1,557
Aug.	1,163	110.24	1,282	1,451
Sep.	1,180	103.17	1,217	1,460
Oct.	1,192	109.56	1,306	1,595
Nov.	1,203	93.98	1,131	1,206
Dec.	1,215	85.79	1,042	
1959-Jan.	1,221	71.68	875	
Feb.	1,215	71.67	871	
Mar.	1,209	101.63	1,229	
Apr.	1,203	107.65	1,295	
May.	1,198	105.35	1,262	
Jun.	1,192	95.33	1,136	
Jul.	1,186	88.83	1,054	
Aug.	1,180	89.94	1,061	
Sep.	1,174	87.59	1,028	
Oct.	1,169	96.59	1,129	
Nov.	1,163	86.20	1,003	
Dec.	1,163	81.70	950	



The Geisinger Indicator

FORECAST

The seasonally adjusted Federal Reserve Board's Index of Industrial Production continued to advance in December when it reached 142. The production index has been going up for eight months without a pause. This fact alone would be reason enough to expect some hesitation.

In addition, the Geisinger Indicator for September (May 1959 when advanced) was down from +5.2 to +3.0. This does *not* mean that there will be a business recession. It does mean, however, that we can expect some leveling off in the climb of Industrial Production. The turn-over in the Geisinger Indicator is just a caution signal.

The danger signal will be when the Geisinger Indicator cuts -2 on the way down if the Indicator should continue to move downward.

The First Difference Indicator moved up slightly in November to +1.66. The rate of increase in production has been fairly steady for the past three months.

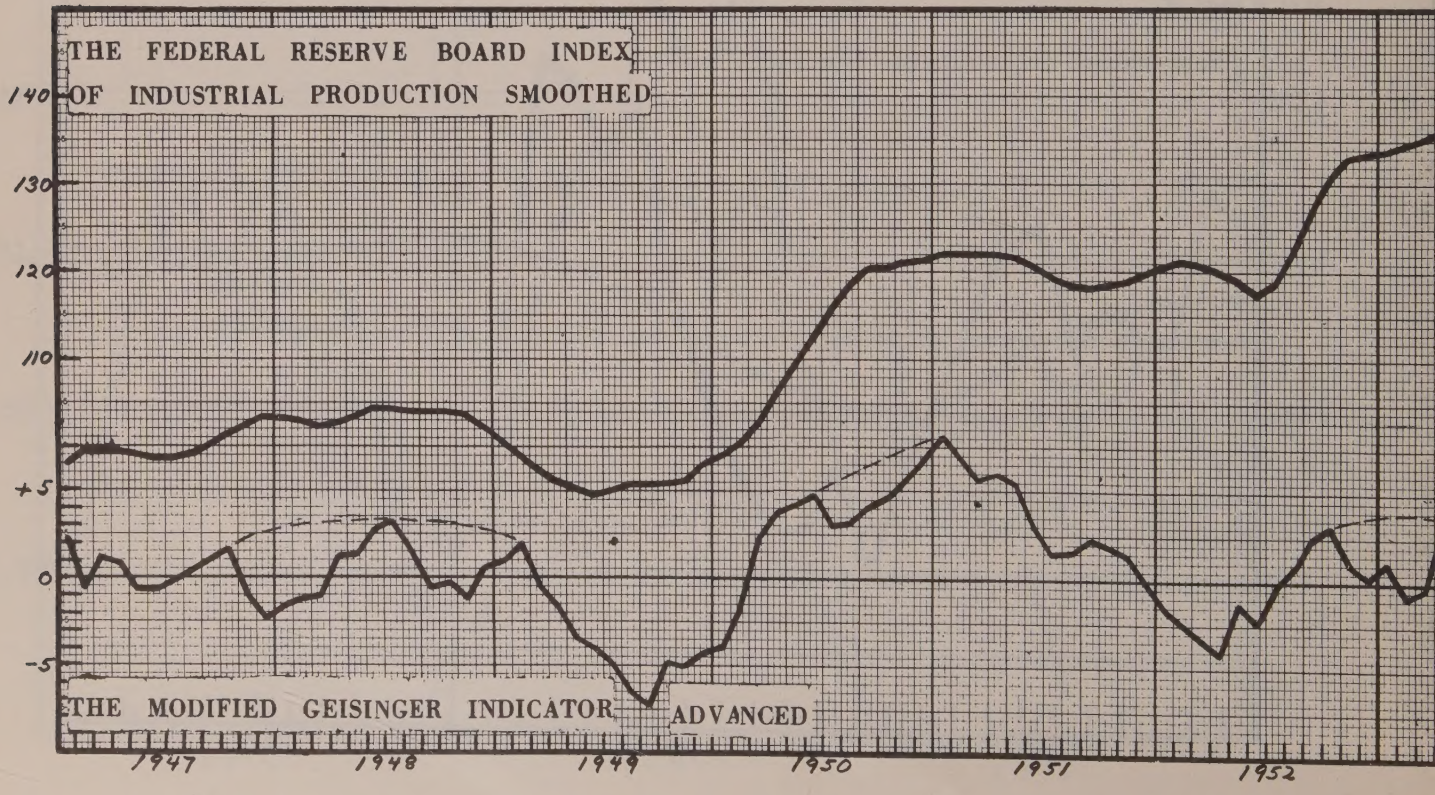
The Modified Geisinger Indicator for September (May 1959 when advanced) went down to +4.50. This Indicator appears to have formed a top. Although there is no reason why it cannot turn up again next month, for the time being it does inject a note of caution.

Of course business continues good and may improve further. Nevertheless the little cloud on the horizon which I mentioned last month has grown much larger even though the sun is still shining.

January 28, 1959 *E. R. Dewey*

Month	1 F.R.B. Index	2 Geisinger Indicator	3 First Difference Indicator	4 Modified Geisinger Indicator	Timing Advanced 8 Months
Apr. 1958	126	-0.4	-1.50	-1.90	Dec. 1958
May	128	+3.0	+0.33	+3.33	Jan. 1959
June	132	+3.8	+2.00	+5.80	Feb. 1959
July	134	+4.6	+2.67	+7.27	Mar. 1959
Aug.	136	+5.2	+2.17	+7.37	Apr. 1959
Sep.	137	+3.0	+1.50	+4.50	May 1959
Oct.	138	*	+1.50	*	June 1959
Nov.	141	*	+1.66p	*	July 1959
Dec.	142p	*	*	*	Aug. 1959

p - preliminary * - not yet available



BACKGROUND

Explanation

The Modified Geisinger Indicator is a series of numbers which, in the past, have usually gone up and down ahead of corresponding movements of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the probabilities of the future.

The Modified Geisinger Indicator is the sum of two Indicators, the Geisinger Indicator and The First Difference Indicator.

The Geisinger Indicator was invented by Robert Geisinger. It is derived from figures which are published each month in the *Survey of Current Business*. (See Col. 2 of the table.)

The First Difference Indicator, is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. It registers the *rate* of advance or decline. It has some forecasting value, too. (See Col. 3 of the table.)

The sum of these two Indicators makes the *Modified* Geisinger Indicator. See Col. 4 of the Table. It is advanced by eight months and plotted as the bottom line of the chart.

The F. R. B. Index of Industrial Production measures physical production in the U. S. A. It is a weighted average of tons, yards, gallons, and numbers of things produced each month. See (Col. 1 of the Table.)

The smoothed values of the F. R. B. Index of Industrial Production are plotted below as the top line on the chart. The smoothing is effected by means of a centered 3-month moving average posted to the second position. The latest actual monthly Index of Production is recorded by a dot.

Industrial Production has *nothing* to do with stocks.

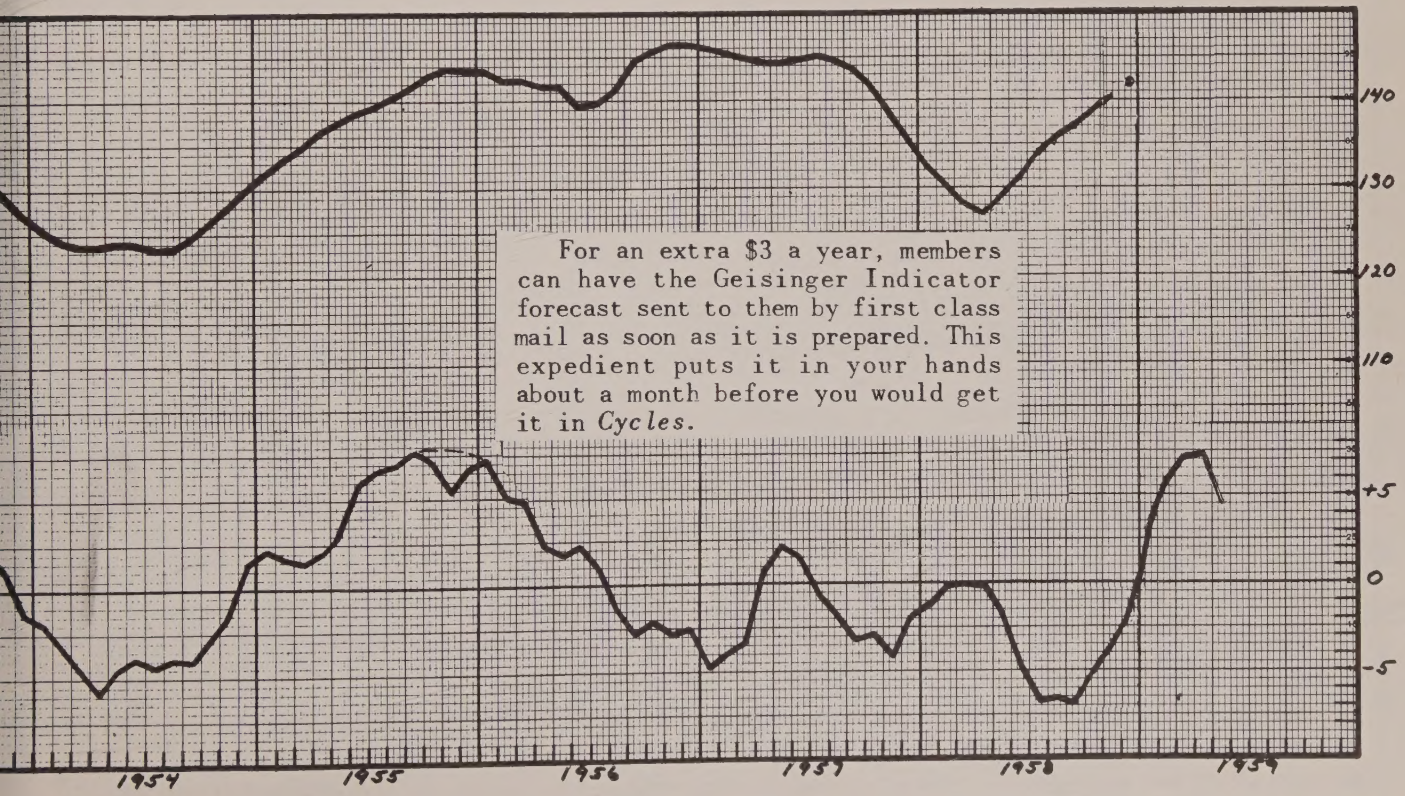
Interpretation

In the past, when the *Geisinger* Indicator (Col. 2), going up, has cut +2, good business has followed; when, going down, it has cut -2, bad business has followed.

The important *turns* of the *Geisinger* Indicator (Col. 2) and the *Modified* Geisinger Indicator (Col. 4) often come about 8 or 9 months before the corresponding turns of the Index of Industrial Production. This fact gives some idea of what is around the corner. To help you to grope your way into tomorrow the Modified Geisinger Indicator is advanced 8 months. Where *it* is now, Industrial Production may soon be.

The degree to which the two curves (Industrial Production and the Modified Geisinger Indicator advanced by 8 months) correspond can be seen by inspection of the chart.

The correspondence between the two lines on the chart is general rather than specific. It is not to be expected that every little wiggle in the Modified Geisinger Indicator is significant. It is rather the broad sweep of the line which is to be watched. The dashed lines which are added show the manner in which the eye should follow the Indicator.



For an extra $3 a year, members can have the Geisinger Indicator forecast sent to them by first class mail as soon as it is prepared. This expedient puts it in your hands about a month before you would get it in *Cycles*.

H A MUSHAM
741 N RUSH ST
CHICAGO, ILL

DIRECTOR'S LETTER - CONTINUED

Dear Member:

You will find that many of the old issues of CYCLES are as good or better than the ones you are receiving currently.

Many of the old issues are becoming collector's items.

In fact we have only two complete sets of Volume I (1950, 5 issues), and Volume 3 (1952, 10 issues). They are priced at $15 a set (bound, $4 extra).

We have several complete sets of all the other years. They sell for $5.50 per set (bound, $9.50).

If you will accept substitutions for the one or two issues of each year that are scarce, you may have the back reports for 1951 through 1958 at $3.50 per set of 10 (or 11 or 12 for the later years). How is that for a bargain?

Send your order and check to the Foundation for the Study of Cycles, 680 West End Avenue, New York 25, New York.

Very cordially yours,

Edward R. Dewey

Director